HW7

Simple Image Classification using Convolutional Neural Network

This homework demonstrates creating and training a simple Convolutional Neural Network (CNN) for image classification using PyTorch.

Tasks

0. **Implement make_cnn_classification_model() and get_flat_size() in torch_cnn.py**

1. Experiment with different numbers of filters (e.g. 16 and 32) in the convolutional layers. Compare the performance of the model with different numbers of filters.

2. Experiment with different kernel sizes (e.g. 3x3 and 5x5) in the convolutional layers. Compare the performance of the model with different filter sizes.

3. Experiment with padding and without padding in the convolutional layers. Compare the performance of the model with and without padding.

4. Pick the best model from the above experiments. Use the settings and train your network with 0.30 dropout. Compare the results.

5. Submit torch_cnn.py to the Gradescope autograder.

REPORT

You are required to do your comparisons in your report. You need to elobrate on the,

- performance of the model with different numbers of filters,
- performance of the model with different filter sizes,
- performance of the model with and without padding,
- performance of the best model compared to that of other models obtained.